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09/613,068	07/10/2000	Se-Hyoung Kim	678-514-(APA9464	8817

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EXAMINER

KADING, JOSHUA A

ART UNIT PAPER NUMBER

2661

DATE MAILED: 10/09/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

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## Office Action Summary

Application No.

09/613,068

Applicant(s)

KIM ET AL.

Examiner

Joshua Kading

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-15, 17, 18, 20-37, 39, 40, 42, 43 and 45-60 is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 8-12, 16, 19, 38, 41 and 44 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 July 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

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## **DETAILED ACTION**

### ***Priority***

1. Acknowledgment is made of applicant's claim for priority under 35 U.S.C. 119(a)-(d) based upon an application filed in Republic of Korea (99-27407) on July 08, 1999. A claim for priority under 35 U.S.C. 119(a)-(d) cannot be based on said application, since the United States application was filed more than twelve months thereafter.

### ***Drawings***

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The abstract of the disclosure is objected to because it exceeds 150 words in length. Correction is required. See MPEP § 608.01(b).

### ***Claim Objections***

5. Claim 38 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. It is inherent in the operation of the demultiplexer of claim 37 that the demultiplexer will separate the information symbols and the parity symbols.

6. Claims 16, 19, 41, and 44 are objected to because of the following informalities:

7. Claim 16, line 10 reads, "the total number of filler bits". It should read, "a total number of filler bits".

8. Claim 19, line 23 reads, "the total number of filler bits". It should read, "a total number of filler bits".

9. Claim 41, line 15 reads, "the total number of filler bits". It should read, "a total number of filler bits".

10. Claim 44, line 2 reads, "the total number of filler bits". It should read, "a total number of filler bits".

11. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

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12. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

13. Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is unclear from the specification what is meant by "a bit reverse column transposition method".

***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 1-3, and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Park et al. (U.S. Patent 6,400,703 B1).

16. In regard to claim 1, the admitted prior art discloses an uplink transmitting device in a mobile communication system, comprising:

17. an encoder for receiving an information bit stream and for generating an information symbol, a first parity symbol, and a second parity symbols by encoding the

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information bit stream (figure 1, element 110 where it is inherent in the encoder that parity symbols will be generated from the information bit stream because the parity symbols are used on the decoding (receiving) end to get the original message back from the coded data);

18. an interleaver for interleaving the encoded symbols by a predetermined interleaving rule (figure 1, element 120);

19. a radio frame segmenter for receiving symbols from the interleaver and outputting the received symbols in at least one radio frame, each of the at least one radio frame having the same size (figure 1, element 130; specification page 2, line 26-28);

20. a rate matcher for bypassing the information symbols and for puncturing parts of the first and second parity symbols according to a given rate matching rule (figure 1, element 140; specification page 3, line 1-4 and knowing the parity symbols must be part of the encoded data).

21. The admitted prior art lacks a demultiplexer for demultiplexing each of the at least one radio frame received from the radio frame segmenter into three streams, one of information symbols, one of first parity symbols, and one of second parity symbols. However, Park et al. discloses a demultiplexer for demultiplexing each of the at least one radio frame received from the radio frame segmenter into three streams, one of information symbols, one of first parity symbols, and one of second parity symbols (figure 1, elements 40 and carriers A, B, and C; col. 1, line 62 where the carriers A, B, and C are assumed to be the three streams of symbols separated by the demultiplexer).

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It would have been obvious to one with ordinary skill in the art at the time of invention to include the demultiplexer in the uplink transmitting device. The motivation being to transmit the data in parts allowing for a more reliable transmission.

22. Claim 2 is rejected for the same reasons as claim 1 even though claim 1 lacks the transmitting device wherein the size of the at least one radio frame is 10ms.

However, the admitted prior art further discloses the transmitting device wherein the size of the at least one radio frame is 10ms (specification page 2, line 28).

23. Claim 3 is rejected for the same reasons as claim 1 even though claim 1 lacks the transmitting device wherein the information bit stream is transmitted at a predetermined transmission time interval (TTI), said TTI being one of 10, 20, 40, and 80 ms. However, the admitted prior art further discloses the transmitting device wherein the information bit stream is transmitted at a predetermined transmission time interval (TTI), said TTI being one of 10, 20, 40, and 80 ms (specification page 2, line 21).

24. Claim 5 is rejected for the same reasons as claim 1 even though claim 1 lacks the transmitting device wherein the symbols in each radio frame are repeated according to a pattern. However, the admitted prior art discloses the transmitting device wherein the symbols in each radio frame are repeated according to a pattern (specification page 3, lines 22-23).

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25. Claim 6 is rejected for the same reasons as claim 1 even though claim 1 lacks the transmitting device wherein several of the at least one radio frame generated from the radio frame segmenter have a different initial symbol. However, the admitted prior art discloses the transmitting device wherein several of the at least one radio frame generated from the radio frame segmenter have a different initial symbol (specification page 2, lines 21 and 23-24 where it is implied from the TTI's and the frame data size that the initial symbol will be different based on different TTI's).

26. Claim 7 is rejected for the same reasons as claim 6 even though claim 6 lacks the transmitting device wherein a plurality of the at least one radio frame have initial symbols determined by TTI. However, the admitted prior art discloses the transmitting device wherein a plurality of the at least one radio frame have initial symbols determined by TTI (see reasoning for claim 6 above).

***Allowable Subject Matter***

27. Claims 8-10, and 11-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

28. The following is an examiner's statement of reasons for allowance:

29. Claims 13 and 37 are allowable because the prior art of record fails to teach, in combination with other claim limitations, a demultiplexer for receiving the at least one radio frame and for demultiplexing the symbols in each of the at least one radio frame



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by switching each of the symbols in the radio frames to a corresponding component in the rate matcher.


30. Claims 27 and 51 are allowable because the prior art of record fails to teach, in combination with other claim limitations, demultiplexing the symbols in each of the at least one radio frame by switching each of the symbols in the radio frames to a corresponding component in the rate matcher...

31. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

32. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Kading whose telephone number is (703) 305-0342. The examiner can normally be reached on M-F: 8:30AM-5PM.

33. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Olms can be reached on (703) 305-4703. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

34. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

  
Joshua Kading  
Examiner  
Art Unit 2661  
**KENNETH VANDERPUYE**  
**PRIMARY EXAMINER**

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JK

September 30, 2003